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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/811,056

03/15/2001

Andrew P. DeJaco

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01/10/2005

Qualcomm Incorporated  
Patents Department  
5775 Morehouse Drive  
San Diego, CA 92121-1714

EXAMINER

PHAN, TRI H

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/811,056	<b>Applicant(s)</b> DEJACO ET AL.	
	<b>Examiner</b> Tri H. Phan	<b>Art Unit</b> 2661	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 September 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 and 14 is/are pending in the application.
- 4a) Of the above claim(s) 8-13, 15 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment/Arguments***

1. This Office Action is in response to the Amendment filed on September 9<sup>th</sup>, 2004. Claims 8-13 and 15-16 are now canceled. Claims 1-7 and 14 are now pending in the application.

### ***Drawings***

2. Figure 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Zhou et al.** ("Bypassing Vocoders in CDMA Mobile-to-Mobile Calls", 04-1998, IEEE, 0-7803-4320-4, pages 2527-2531) in view of **Lehtimäki, Matti** (U.S.6,125,120).

- In regard to claim 1, **Zhou** discloses in Figs. 1, 3, 4 and in the respective portions of the specification about the method for bypassing vocoder in wide-band mobile-to-mobile calls CDMA ("*wideband speech signal*") through PSTN backbone network ("*narrowband communication system*"); wherein the base station controller 'BSC' ("*base station*") converts the voice packets ("*data packets*") received from the mobile ("*remote station*") into the pulse code modulation 'PCM' voice packets ("*narrowband digital signal*") for transmitting to other BSC ("*second base station*") and to other mobile station ("*second remote station*") (For example see Fig. 1; Abstract and para 1: Voice Path of Current Calls, page 2527). **Zhou** does disclose about the converting between PCM and variable rate compressed QCELP voice packets, but fails to explicitly disclose about the method "*puncturing*" the narrowband digital signal and "*separating*" the narrowband digital signal. However, such implementation is known in the art.

For example, **Lehtimäki** discloses in Figs. 1, 3A-B and in the respective portions of the specification about the method and transmission equipment for the interexchange connection between the public switched telephone network 'PSTN' and the mobile communication networks, e.g. mobile to mobile call 'MMC', (For example see col. 2, line 39 through col. 5, line 36); forming the subchannels in one or two least significant bits of the PCM samples in the PCM channel between the transmission equipment for vocoded speech or data ("*puncturing the*

Art Unit: 2661

*narrowband digital signal with the plurality of data packets*”) by inserting the TRAU frame’s bits (For example see Figs. 3A-B; col. 7, line 38 through col. 8, line 4) and separating the TRAU frames and PCM samples (*“separating the narrowband digital signal”*; For example see Fig. 7; col. 9, lines 4-45).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Lehtimäki**, by implementing the subchannels in one or two least significant bits of the PCM samples in the PCM channel between the transmission equipment for vocoded speech or data into the variable rate compressed voice packets as taught by **Zhou**, with the motivation being to provide the compressed method for vocoded speech or data between the transmission equipment as disclosed in the abstract.

- Regarding claims 2 and 7, **Zhou** further fails to explicitly disclose about the *“puncturing”* method occurs in the least significant bits of the narrowband digital signal. However, such implementation is known in the art.

**Lehtimäki** discloses about the forming of subchannels in least significant bits of the pulse code modulated ‘*PCM*’ sample (For example see **Lehtimäki**: Figs. 3A-B; col. 7, lines 38-58).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Lehtimäki**, by implementing the subchannels in one or two least significant bits of the PCM samples in the PCM channel between the transmission equipment for vocoded speech or data into the variable rate compressed voice

Art Unit: 2661

packets as taught by **Zhou**, with the motivation being to provide the compressed method for vocoded speech or data between the transmission equipment as disclosed in the abstract.

5. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Zhou et al.** (“Bypassing Vocoders in CDMA Mobile-to-Mobile Calls”, 04-1998, IEEE, 0-7803-4320-4, pages 2527-2531) in view of **Lehtimäki, Matti** (U.S.6,125,120) as applied to claims 1-2 and 7 in part 4 rejection above, and further in view of **Tseng et al.** (U.S.6,172,974).

- In regard to claims 3-5, the combination of **Zhou** and **Lehtimäki** does disclose about the tandem free operation in the mobile to mobile calls ‘MMC’ (For example see **Zhou**: col. 12, line 26 through col. 13, line 11; **Lehtimäki**: Fig. 3; Abstract) and about the transcoder units at the base stations (“*vocoders in the in-path equipments*”; For example see **Zhou**: Figs. 1-3; **Lehtimäki**: col. 1, lines 44-65), but fails to explicitly disclose about the method for “*disabling the echo cancellers*” of the in-path equipment for tandem free operation. However, such implementation is known in the art.

For example, **Tseng** discloses about the method and apparatus for achieving tandem free operation. ‘TFO’ capabilities between terminals of the communication network having tandemed vocoder; wherein the decoder 26, 28 in the vocoder 24 (“*decoding portion of the vocoder*”; For example see Fig. 4) and disabling network echo cancellers 50 in the original and terminal elements, in the forward and backward directions, (“*disabling echo cancellers*”; For example see Fig. 4; col. 2, lines 50-67; col. 6, lines 44-62).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Tseng**, by implementing the tandem free operation 'TFO' capabilities into the terminals as taught by the combination of **Zhou** and **Lehtimäki**, with the motivation being to improve the quality of the speech signals transmitted between terminals in the communication network having tandem vocoder as disclosed in **Tseng**: col. 1, lines 17-25.

- Regarding claim 6, the combination of **Zhou** and **Lehtimäki** does disclose about the "negotiating" for tandem free operation in the mobile to mobile calls 'MMC' (For example see **Zhou**: Figs. 3-4, e.g. 'BSC contact request'; **Lehtimäki**: col. 12, line 26 through col. 13, line 11) and **Tseng** discloses about the "negotiating" for tandem free operation in the mobile to mobile calls (For example see col. 6, lines 6-29).

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Mayer, Ralf** (U.S.6,556,844), **Lehtimäki, Matti** (U.S.6,125,120), **Tseng, Yichyun** (U.S.6,172,974), **Delfs et al.** (U.S.6,826,404), **O'Connor, Neil** (WO 01/13658), **Hellwig et al.** (WO 01/91489), **Zhou et al.** ("Bypassing Vocoders in CDMA Mobile-to-Mobile Calls", 04-1998, IEEE, 0-7803-4320-4, pages 2527-2531) and **Greer et al.** ("Standardization of the Selectable Mode Vocoder", 04-2001, IEEE, 0-7803-7041-4, pages 953-956) are all cited to show

Art Unit: 2661

devices and methods for improving tandem and tandem-free operations in the telecommunication architectures, which are considered pertinent to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri H. Phan, whose telephone number is (571) 272-3074. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078.

**Any response to this action should be mailed to:**

**Commissioner of Patents and Trademarks**

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, whose telephone number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR



Art Unit: 2661

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tri H. Phan', with a stylized flourish at the end.

Tri H. Phan  
January 5, 2005

A handwritten signature in black ink, appearing to read 'Kenneth Vanderpuye', with a stylized flourish at the end.

KENNETH VANDERPUYE  
PRIMARY EXAMINER